



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4x56
 UNIQUE ID NUMBER: 1PW055
 COMBUSTOR: Phase 3
 ENGINE TYPE: TF

BYPASS RATIO: 4.8
 PRESSURE RATIO (π_{00}): 28.4
 RATED THRUST (F_{00}) (kN): 249.1

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	9.9	50.3	57.0	10.9
AS % OF ORIGINAL LIMIT	50.3	42.6	59.0	59.4
AS % OF CAEP/2 LIMIT (NO _x)			73.7	
AS % OF CAEP/4 LIMIT (NO _x)			88.6	
AS % OF CAEP/6 LIMIT (NO _x)			100.6	
AS % OF CAEP/8 LIMIT (NO _x)			119.2	

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES
 x DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	2.351	0.08	0.48	30.44	8.5
CLIMB OUT	85	2.2	1.912	0.09	0.56	24.24	5.8
APPROACH	30	4.0	0.643	0.16	1.89	11.97	0.6
IDLE	7	26.0	0.208	4.75	29.96	3.93	0.0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			830	1597	10202	12246	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX)				6.4	41.0	49.2	8.5
SIGMA (D _p /F ₀₀ in g/kN, or SN)							
RANGE (D _p /F ₀₀ in g/kN, or SN)							

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	102
TEMPERATURE (K)	270
ABS HUMIDITY (kg/kg)	0.0015

FUEL

SPEC	Jet A
H/C	1.91
AROM (%)	21

MANUFACTURER: Pratt & Whitney
 TEST ORGANIZATION: Pratt & Whitney
 TEST LOCATION: Middletown, CT
 TEST DATES: 15/01/1993-19/01/1993

NO_x REGULATION PARAGRAPH

x	2.3.2 c) (CAEP/4)
	2.3.2 d) (CAEP/6)
	2.3.2 e) (CAEP/8)

REMARKS

1. Data from X693-20 with Phase 3 reduced pressure loss combustor

Compliance with Fuel Venting requirements:

- ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)